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ANTHROPOLOGICAL NOTES ON THE HUMAN HAND.

BY FRANK BAKER, M. D.,

Professor of Anatomy, University of Georgetown, Washington, D. C.

A short time ago, while in the room where the corpse of a lovely young girl lay awaiting burial, I noticed that many of the passing visitors lifted the hand of the dead and applied it to some part of their own bodies—head, arm, face, breast. I was not sure what was meant by this and took occasion afterwards to ask one of those whom I had observed making this application, and was told that it was intended as a cure for various disorders. It appeared that this young girl had lived a notably pure and holy life, and that the touch of such a person was believed to be especially curative against tumors, warts, headache, and minor affections. My informant was, I was assured, immediately cured of a severe headache.

This led me to further inquiry and I found the custom to be widely spread. In two notable and quite recent instances, those of a Carmelite nun dying in Baltimore and a well-known Catholic priest who died in this city, many applications of the dead hand were made with reputed success. In both of these cases throngs of people pressed to obtain the coveted touch. Nor is the belief confined to those of the Roman Catholic faith; a female homœopathic physician, formerly an army nurse, told me that once during her hospital service two soldier patients, suffering from malarial fever of a persistent type, came to her and asked permission to prepare for burial the next patient who might die. Upon inquiry it was found that they firmly believed that they could “break the chills” by an application of the dead hand, and it was for that reason that they sought this task. They were allowed to make the trial and were thereby speedily cured! Neither of these patients was a Catholic. In another case a white swelling was cured by a murderer’s hand surreptitiously obtained. The moral quality of the individual to whom the member belonged seems to be a matter of importance. I was told, by a person who had knowledge of the facts, that, in the burial place for the paupers of this city, graves are not infrequently violated for the purpose of obtaining a hand or an arm, the cadaver being otherwise uninjured.

In Staffordshire and in Galloway it is held that a dead hand rubbed on warts causes them to disappear.* In Berwickshire, a short time ago, applications of the dead hand were made to remove wens, and in Northamptonshire crowds of sufferers used to congregate about the gallows-tree on days of public executions to receive "the dead stroke," nurses even bringing children for the purpose. The swelling is believed to decrease as the body of the criminal moulders away.† Eye-witnesses living in 1868 in West Sussex, England, described the revolting ceremony of stroking at the gibbet, and the touch of the dead hand (not criminal) was still used for goitre and other affections, the stroke being applied nine times from east to west and nine times from west to east.‡ Similar occurrences are related at the execution of Dr. Dodd, in 1777,§ and at the execution of the murderer Crowley, at Warwick, in the year 1845.||

It is needless to say that no record has been kept of the failures of this strange remedy, and the curious critic might imitate the Roman who, on seeing the tablets hung in the temple of Neptune by those who had been delivered by calling on the god, asked to see the tablets of those who had been drowned after a similar appeal.

The reason for these curious superstitions is obvious. The hand is so intimately connected with the brain as the executor of its behests that the savage mind naturally ascribes to it a separate and distinct force independent of the rest of the body—makes it, in fact, a fetish. Savage tribes wear necklaces made from the phalanges of those slain in battle, as witness the Cheyenne necklace of this character recently deposited in the National Museum. A similar custom prevailed among the Greeks, who wore the fingers and toes of a murdered relative under the armpits to avert the vengeance of the Furies.¶

* Dyer (T. E.). *English Folk Lore*. London, 1884. *Mactaggart's Gallividean Encycl.*, p. 462.

† Hardy (James). *Warts and Wen Cures*, *Folk Lore Record*, i, 1878.

‡ Latham (Charlotte). *Some West Sussex Superstitions lingering in 1868*. *Folk Lore Record*, i, 1878.

§ Fraser's *Mag.*, xxxvi, 1847, p. 293.

|| Brand (John). *Popular Antiquities of Great Britain*. London, 1877.

¶ Grant (James). *The Collected Mysteries of All Nations*. Leith, London, and Edinburgh. n. d.

One of the most famous and authentic relics of the middle ages was the hand of St. John the Baptist. It appears that after his execution by Herod he was buried at Sebasta. St. Luke and other disciples wished to remove the entire body and opened the grave by night for the purpose, but, fearing discovery, merely took the right hand, with which our Lord had been baptized. St. Luke carried the hand to Antioch. Constantine Porphyrogenitus bribed a deacon of the Antioch church to steal it, and it was brought to Constantinople and placed in the church of St. John. It remained there until the city was captured by the Turks, when, owing to the value of its casket, it was placed in the treasury of the Sultan. It was presented by Bajazet to D'Aubusson, the grand master of the Knights of St. John, and was kept by them as the most precious of their relics, first at Rhodes and afterwards at Malta.*

The independent power of the hand is distinctly held in many passages of ancient poetry and philosophy, which, though figurative, bear evidence of prevailing beliefs. "If thy right hand offend thee cut it off" seems to imply a distinct feeling of vengeance against a guilty member, like that which animated Cranmer at the stake. The Greeks cut from the body of a suicide the hand which had committed the deed and buried it in a separate place. As a symbol of force and power the hand has often been used, as witness the hand upon the sceptre and the gauntlet of heraldic blazonry.

The belief that the living hand is a natural collector and conveyer of force has been current in all ages and is by no means extinct. Most of us have had personal experience of the wide extent of this notion. Who has not seen those suffering from nervous headache decidedly benefited by the touch of the hand of some cool and composed person? Often, perhaps always, the calming of the nervous irritation is brought about by suggestion and the general composure and quiet of the operator. Many so-called healing mediums use the "laying on of hands" as a means of conveying the "spiritual influence," and one has only to dip very slightly into the mass of literature on this subject to become convinced that there is a vast quantity of evidence extant showing that the patients have believed themselves cured of a great variety of disorders. In some of these cases hypnotism is no

* Porter (Whitworth). A History of the Knights of Malta. London, 1883, pp. 296, 297.

doubt a factor and produces certain therapeutic results. Most village communities in retired localities have one or more persons who are reported to have the power to heal by application of the hand, often accompanied by some spoken conjuration or charm.

The royal touch for king's evil is one of this class of survivals. Boswell gives an account of the touching of Dr. Johnson by Queen Anne, which occurred as late as 1712. Either the prerogative in this case was wanting or the elements of faith were lacking, for the touch produced no result. Charles II used to give regular public notice of receptions in which he would heal by touch. It appears from actual register kept at the time that from 1660 to 1682 above 92,000 people were touched by "His Sacred Majesty,"* as many as 8,477 during the last year. The traditional power also existed in certain noble families of pure blood.

From the use of the hand as an instrument for healing to that of its use as a charm is not far. Magic and the healing art have always been more or less allied in the popular mind. Disease is yet regarded as an evil spirit that must be driven out, and the votaries of the mind and faith cures still exorcise the demon with appropriate ceremonies. Detached portions of the dead hand are quite commonly used among the illiterate classes for some supposed lucky influence that they bring. I have known them to be taken from dissecting rooms for that purpose. Old negroes are very apt to have some superstition of this sort. This is a form of the same belief that makes it lucky to carry the fore paw of an animal. It will be remembered that at the beginning of his administration President Cleveland had several fetishes of this kind sent him, notably a rabbit's paw from Florida and a bear's paw from Canada. At least one United States Senator always carries a similar talisman about his person. Among the poor whites of North Carolina, a mole's paw cut off while the animal is still living is believed to be especially efficacious.

This superstition, too, is very old. Among the Romans, dead bodies were often violated by cutting off fingers or toes, or even whole limbs, for magical purposes, and these ghastly fragments formed a part of the regular paraphernalia of a witch's kitchen

* The Gentleman's Magazine, 1811, Part II, p. 125, cites this statement from "Charisma Basilicon; or the Royal Gift of Healing Strumæ or King's Evil," by John Browne, Chirurgeon in ordinary to his Majesty, 1684.

during the middle ages. Shakespeare introduces "finger of birth-strangled babe" as an ingredient of the witch broth in Macbeth. Accounts of the use of parts of the hand in incantations were often elicited upon witch trials. In order to shipwreck King James on his voyage to Denmark a meeting of witches was held at Prestons, and with appropriate ceremonies four joints of dead men's fingers were tied to a cat's feet. The animal was then thrown into the water off Leith pier and a dreadful storm was thus raised.*

During the winter of 1885-'6 an entire hand was stolen from the dissecting room of the Georgetown Medical College in this city. The janitor of the college was a white man of decidedly Bohemian habits and at the time was living with an illiterate woman of the Southern poorer class. The woman had conceived a passion for a dead hand equal to that which Iago had for Desdemona's handkerchief, and many a time had begged of him to steal it. This he did. When asked what she intended to do with it he stated that she believed that she could use it "for luck" and to find money and treasure with.

This was probably a survival of the hideous superstition known in the middle ages as the "hand of glory." The most authentic account of this is contained in the "Secrets du Petit Albert," a book of magical recipes, which was translated from Latin into French during the last century.† I have not seen the original Latin; the translation is as follows:

De la main de gloire dont se servent les scélérats voleurs, pour entrer dans les maisons de nuit sans empêchement.

J'avoue que je n'ai jamais éprouvé le secret de la main de gloire; mais j'ai assisté trois fois au jugement définitif de certains scélérats qui confessèrent, à la torture, s'était servi de la main de gloire dans les vols qu'ils avoient faits; & comme dans l'interrogatoire, on leur demanda ce que c'était, & comment ils l'avoient eue, & quel en étoit l'usage, ils répondirent: premièrement, que l'usage de la main de gloire étoit de stupéfier & rendre immobiles ceux à qui on la présentait, en sorte qu'ils ne pouvoient non plus branler que s'ils étoient morts; secondement, que c'étoit la main d'un pendu;

* Scott (W.). Letters on Demonology and Witchcraft, Letter IX.

† Secrets merveilleux de la magie naturelle et cabalistique du petit Albert, traduits exactement sur l'original latin, intitulé: Alberti Parvi Lucii libellus de mirabilibus naturæ acarnis. A Lyon, MDCCLXXVI.

troisièmement, qu'il falloit la préparer en la manière suivante. On prend la main droite ou la gauche d'un pendu exposé sur les grands chemins, on l'enveloppe dans un morceau de drap mortuaire, dans lequel on la presse bien pour lui faire rendre le peu de sang qui pourroit être resté; puis on la met dans un vase de terre avec du zimat, du salpêtre, du sel & du poivre long, le tout bien pulvérisé, on la laisse durant 15 jours dans ce pot; puis l'ayant tirée, on l'expose au grand soleil de la canicule, jusqu'à ce qu'elle soit devenue bien sèche; & si le soleil ne suffit pas, on la met dans un four qui soit chauffé avec de la fougère & de la verveine; puis l'on compose une espèce de chandelle avec de la graisse de pendu, de la cire vierge & du sisame de Laponie, & l'on se sert de cette main de gloire comme d'un chandelier pour y tenir cette chandelle allumée; & dans tous les lieux on l'on va avec ce funeste instrument, ceux qui y sont demeurent immobiles; & sur ce qu'on leur demanda, s'il n'y avoit point de remède pour se garantir de ce prestige, ils dirent que la main de gloire devoit sans effet, & que les voleurs ne pourroient s'en servir si on frottoit le seuil de la porte de la maison, ou les autres endroits par où ils peuvent entrer, avec un onguent composé de fiel de chat noir, de graisse de poule blanche & du sang de chouette & qu'il falloit que cette confection fût faite dans le temps de la canicule.

Of course, such a blood-curdling superstition as this is often pressed into service by novelists and poets.

Harrison Ainsworth, in *Rookwood*, puts the following cheerful song into the mouth of a sexton:

“ From the corse that hangs on the roadside tree,
(A murderer's corse it needs must be,)
Sever the right hand carefully—
Sever the hand that the deed hath done
Ere the flesh that clings to the bones be gone;
In its dry veins must blood be none.
Those ghastly fingers, white and cold,
Within a winding-sheet enfold;
Count the mystic count of seven,
Name the Governors of Heaven,*
Then in earthen vessel place them;
Bleach them in the noonday's sun
Till the marrow melt and run,
Till the flesh is pale and wan
As a moon-ensilvered cloud,
As an unpolluted shroud.
Next within their chill embrace
The dead man's awful candle place;

* The seven planets, so called by *Hermes Trismegistus*.

Of murderer's fat must that candle be,
 (You may scoop it beneath the wayside tree,)
 Of wax and of Lapland sisame.
 Its wick must be twisted of hair of the dead,
 By the crow and her brood in the wild waste shed.
 Wherever that terrible light shall burn,
 Vainly the sleeper may toss and turn;
 His leaden lids shall ne'er uncloze
 So long as that magical taper glows.
 Life and treasure shall he command
 Who knoweth the charm of the Glorious Hand!
 But of black cat's gall let him aye have care,
 And of screech owl's venomous blood beware!"

This is a tolerably close version of Petit Albert.

Scott (*Antiquary*, chap. xvii), Barham (*Ingoldsby Legends*), and Southey (*Thalaba*, Book V) all give variants of the same theme.

There are several authentic instances of the use of the hand of glory by housebreakers. In 1831 thieves entered a house in Loughcrew, Ireland, armed with such a contrivance, evidently believing that the inmates would not awaken. They were mistaken in this, however, as the family were alarmed, and the robbers fled, leaving their horrible charm behind them.

Henderson* relates the following, told in 1861 by an old woman whose mother was the principal actor. The events related took place between the years 1790 and 1800 at the old Spital Inn, the place where the mail coach changed horses in High Spital on Bowes Moor. A servant girl had orders to be up to prepare an early breakfast for a female traveler. She lay down to sleep on the long settle before the fire, but, before closing her eyes, espied a man's trousers beneath the gown of the traveler, who sat on the opposite side of the hearth. She, however, feigned sleep, when the traveler arose, pulled from his pocket a dead man's hand, fitted the candle to it, lighted the same, and passed hand and candle several times over the servant girl's face, saying as he did so, "Let those who are asleep be asleep and let those who are awake be awake." This done he went out of the door and began to whistle for his confederates. The girl shut and locked the door and ran upstairs to wake the family, but calling, shouting, shaking were

* Henderson (William). *Folk Lore of the Northern Countries*. London, 1879.

alike in vain. She heard the traveler and his comrades outside the house, ran down again and put out the candle with skimmed milk, after which the family were easily awakened. Upon being asked what they wanted, the ruffians said that if the dead man's hand were but given them they would go away. This being refused and a shot fired at them, they disappeared.

The Rev. S. Baring Gould* tells a story similar in many details. In this, however, the magicians—there were two—lighted the *fingers* of the hand itself after anointing them. The thumb they could not light, as one of the family was not asleep. Attempts to awaken the master of the house failed until the servant blew out the burning hand.

A third story told in Northumberland† combines the differences of the other two. A watchful servant saw the suspicious-looking traveler anoint and light the dead fingers, the thumb remaining unlighted. Failing to waken her master and the household, she tried to extinguish the burning hand, first by blowing upon it, then by throwing upon it the dregs of a beer jug, but it burned brightly till she emptied the contents of a milk jug over it, when the flames died at once, the family awakened, and the thieving traveler was seized and afterwards hanged.

A variation of this superstition is found in Belgium. In West Flanders a thief was taken in recent times on whom was found the foot of a man who had been hanged, which he used for the purpose of putting people to sleep, and Henderson tells of a sorceress of the village of Alveringen who had a thief's finger over which nine masses had been said, she laying it upon the altar as a relic. With it she put people to sleep while she stole their possessions.

In 1834 an old soldier, Frederick Berger, was arrested for the murder of a herdsman, Meier, in Pomerania. The corpse of the murdered man had been mutilated, and it was shown on the trial that Berger had cut out a piece to make a "thief's candle." He protested his innocence of the murder, but was, nevertheless, executed. In 1844 a sailor named Memel confessed that he was the murderer. Berger had merely found the corpse when dead or nearly so.‡

* Gould (S. Baring). Curious Myths of the Middle Ages, 2d series. Schamir.

† Henderson, *op. cit.*

‡ Gould (S. Baring). A Strange Crime. Gentleman's Magazine, April, 1887.

Gould also cites the case of a Lanzknecht burnt alive in Lithuania April 13, 1619, for a similar crime; he confessed he had also used infants' fingers. Further, two murderers executed in 1602 at Budissin, one man sentenced in 1638 at Ober-Haynewald to imprisonment for cutting off the thumb of a man hanging in chains, one broken on the wheel at Bamberg in 1577, one at Nuremberg in 1601.

Cox, in his Aryan mythology, considers the hand of glory as one of the lightning myths, allied to the magical taper of the Moor,* which opened, with a thundering noise, bolts, bars, and even adamantine rocks concealing secret treasures. Gould agrees with this view, classing it with other mythical objects which could break rocks and bolts, viz., the Schamir of Solomon (Persian), Springwort (Scandinavian), Luckflower (German), Sesame (Arabian), Saxifrage (classic antiquity).† It will be noted that most of these are plants, and that "Lapland sisame" is one of the ingredients of the dead man's candle.

A further examination of this subject has convinced me that this is not wholly correct. It is more probable that the myth arose during the middle ages among thieves and illiterate persons in France by a misunderstanding of words; *mandragore*, the French term for the mandragora or mandrake,‡ being mistaken for *main de gloire*. The term *mandegloire* is given by Dujardin-Beaumetz in his *Dictionnaire de Thérapeutique*, now publishing in parts, as a popular synonym for mandragore. In southern France the *main de gloire* is known as the *man de gorre*, so we see the error in various stages of its growth.§

The mandragora is solanaceous, allied to belladonna, and possesses similar properties. Its root is spindle-shaped, often forked, and it is said to grow in gloomy forests and about the mouths of caves. spots of evil repute to the primitive mind.|| It was used as

* See The Moor's Legacy, in Irving's Tales of the Alhambra.

† Gould. Curious Myths, &c., *loc. cit.*

‡ This is the *Mandragora officinarum* of Linnæus, now divided into two species, the *M. vernalis* of Bertoloni, found in southern and central Spain, northern Italy, Dalmatia, Thessaly, Syria, and Crete, and the *M. autumnalis* of Sprengel, found in southern Spain, Calabria, Sicily, and Greece.

§ Larousse (Pierre). Dictionnaire Universel de la XIX^e Siècle.

|| Vossius, cited in Richardson's Dictionary, suggests an etymology for mandragora [*μανδραγόρας*], deriving it from *μάνδρα*, an inclosed space, and *αγορεύειν*, to tell.

a powerful narcotic by physicians of the 15th and 16th centuries, and appears besides to be analgesic, being used to deaden pain during surgical operations.* Richardson† has lately made a careful examination of its physiological action and confirms this. It is peculiarly benumbing, and was probably the drug that Shakespeare makes Friar Lawrence give Juliet. Othello says :

“ Not poppy, nor mandragora,
Nor all the drowsy syrups of the world,
Shall ever medicine thee to that sweet sleep
That thou ow'dst yesterday.”

And Cleopatra :

“ Give me to drink mandragora,
That I might sleep out this great gap of time—
My Antony is away.”

Many superstitions were connected with the plant. The frequent forked appearance of the root had a distant resemblance to the belly and lower limbs of man. According to the doctrine of signatures then in vogue, this made the plant of especial value for producing fertility in women‡ and procuring easy delivery in childbirth ; this was soon extended to giving it talismanic qualities, and the possession of one of these roots was believed to bring increase of possessions, good luck, the finding of hidden treasure, and the like. Joan of Arc was said to owe her great success against the English to a mandrake root. The Arabs call it the devil's candle, believing that its leaves shine at night.§ This belief was also current in the tenth and eleventh centuries, as shown by Anglo-Saxon manuscripts of that period.||

The author of *Les Secrets du Petit Albert* figures one of these roots¶ that he saw in the possession of a peasant, who buried it in

* Et quando fiunt necesse incidere vel cauterizare aliquod membrum volumus quod non sentiatur detur ei in potu prius.—From the *Tractatus de Virtutibus Herbarum* of Arnoldus de Villa Nova, 1499, § xcv.

† *British and Foreign Medico-Chir. Review*, January, 1874.

‡ See La Fontaine's story “La Mandragore.”

§ Moore has adopted this in his description of the eyes of the Gheber in *Lalla Rookh* :

“ In whose red beam, the Moslem tells,
Such rank and deadly luster dwells
As in those hellish fires that light
The mandrake's charnel leaves at night.”

¶ Folkard (Richard), Jr. *Plant Lore, Legends, and Lyrics*.

¶ *Op. cit.*, p. 159.

a grave at a propitious conjunction of the planets on a Monday in spring. For a month he sprinkled it each morning before sunrise with milk in which three field-mice had been drowned. It was then more human-like than ever. He proceeded to place it in an oven with vervain and wrap it in a fragment of a shroud. He was successful both in games and at work and became quite rich through its means.

The demon-like character became even more elaborated. Either from the gloomy nature of its habitat, or from the falsehoods of interested quacks, it was believed to be very difficult to procure. It was said to grow very sparingly except under a gallows-tree, some alleging that it thrived only when fed by the foul drippings of the putrefying corpse, others that it was actually formed from the semen of the criminal. When it was pulled up a loud shriek was heard which killed or drove mad those who heard it.* It could be used to stupefy victims while thieves might rob at their will.

The similarity of this myth to that of the hand of glory will be noted ; it seems clear that there has been a transference, the other details being a natural product of the terror-stricken imagination of a superstitious and credulous age.†

While making inquiries concerning current superstitions I have been surprised to find that, even among cultivated and intelligent people, there is a belief that the minutiae of character may be inferred from an inspection of the hand. As I have been gravely assured, after an examination of my own fingers, that I possess some tendencies toward philosophy, I may perhaps be allowed to make a few remarks upon this gipsy-like child that claims a place in the family of sciences.

It is probably not so much a survival of the old notions of palmistry as a revival brought about by the efforts of a number of writers of some ability who have constructed a pseudo-science, resembling phrenology and physiognomy, based upon the forms and characteristics of the hand. The ablest of these are Captain d'Arpentigny,‡ Prof. Carus,§ and Desbarrolles.||

* *Romeo and Juliet*, act v, scene 3.

† See also in support of this view Littré's Dictionary, Article—Main.

‡ D'Arpentigny (C. S.). *La chiromnie, ou l'art de reconnaître les tendances de l'intelligence d'après les formes de la main*. Paris, 1843.

§ Carus (C. G.). *Ueber Grund und Bedeutung der verschiedenen Formen der Hand in verschiedenen Personen*. Stuttgart, 1846.

|| Desbarrolles (Ad.). *Les mystères de la main révélés et expliqués*. Paris, 1859.

M. d'Arpentigny was an officer of the French army. Fond of social pleasures, he was, as a young man, in the habit of frequenting the receptions given by a rich country gentleman who lived near him and who had a leaning towards the more practical sciences, engineering, architecture, and construction. His wife was a lady of literary tastes and cultivated the society of artists, musicians, and *littérateurs*. They held receptions upon different days for their own special sets of acquaintances, but M. d'Arpentigny was at home in both circles. He came to notice that the hands of the mathematicians and engineers were markedly different from those of the frequenters of the parlors of madame. Upon this he instituted an investigation which led him to formulate a "science of the hand."*

The ground taken by the advocates of the system is reasonable enough at bottom. It is simply the Lamarckian theory of use and adaptation expressed by Gœthe long ago :

"Also bestimmt die Gestalt die Lebensweise des Thieres,
Und die Weise zu leben sie wirkt auf alle Gestalten
Mächtig zurück."

—*Die Metamorphose der Thiere*, 1819.

The mind and the body act and react upon each other. Thus far no one can dispute the philosophy of these speculators, and did they attempt to take into account *all* expressions of bodily form as significant of mental characteristics their effort would be a worthy one ; but they go on to single out the hand as the especial and peculiarly endowed servant of the brain ; they bring in under the cloak of science the same superstition which was shown the door when it assumed the dress of magic, and attempt to connect a multitude of minute details of mental character and aptitude with variations of anatomical structure and configuration of the fingers and palm. They hold that man is a microcosm or epitome of the universe and that the hand in a similar way must be an epitome of the man.

That the hand is shaped by the uses to which it is put is unquestionable. In a general way much may be learned of the occupations, mechanical aptitudes, and tendencies of a man by an inspection of his hand.† We may, perhaps, go somewhat further than

* This is strikingly like the history of the origin of phrenology as related by Gall.

† See, for example, the valuable work of Vernois (M.), *De la main des ouvriers et artisans, au point de vue de l'hygiène et de la médecine légale*. Paris, 1862.

this and say that with the inherited cast of mind which imparts a tendency towards definite occupations there may also be transmitted a definite form of hand, and that types may be thus produced ; but the same may be said of every other part of the body.

The cheirognomists soon leave the solid ground of induction for the vagaries of irresponsible speculation or even charlatanry. What can we think of an author who tells us, as M. d'Arpentigny does, that "callosity in a hand seems always to cast a shadow upon the mind," and who explains that a taste for horticulture increases with advancing age because "it is then our hands, stiffened and bony and bereft of their delicate tactile organization, offer a faithful reflex of our impoverished imaginations"?

Zadig was able to state of a camel he had not seen that he was blind of one eye and had lost one of his front teeth, judging from the appearances left where he had been grazing. He did not, however, venture to declare the color of the animal, to say whether or not he was gentle, obedient to his master, or fond of the opposite sex. The hierophants of cheirognomy seem, like the physiognomists and phrenologists, totally unable to appreciate the scientific method of collating and weighing evidence, and their books are full of conclusions based upon alleged facts which they forget are of their own devising. Who has not seen the itinerant phrenological lecturer with his pictures of skulls and portraits of noted personages, not one of which is authentic, all either manufactured outright or modified to suit the particular argument which the lecturer intends to advance? In the same way d'Arpentigny and Desbarrolles teem with instances drawn from the details of shape of the hands of notable personages long since dead, hands of which it is impossible that any accurate knowledge can exist.* Of actually living persons the data produced are comparatively few.

It is but one step from this loose making of bricks without straw to palmistry pure and simple, and this step is actually taken by most of the disciples of the new faith, so that we have the curious spectacle of a revival of the cheiromancy of the middle ages in the midst of the nineteenth century. The "astral fluid" again appears governing the seven planetary mounts ; the *linea mensalis*, *linea*

*I cite a few noted at random : Artaxerxes I, Richelieu, Aristotle, Ariosto, Galileo, Frederick I of Prussia, Descartes, Newton, Byron, Paul I of Russia, Louis XIV, George Stephenson, Montaigne.

This natural interpretation is not enough for the cheiromants. They divide the line of life into sections which represent years of life, and predict illnesses and death according as an interruption or cessation of the line is found at these fateful points. A mark on the line of the heart indicates apoplexy, while a break in the line of the head naturally indicates a broken head.

This is not, as might be supposed, the mere chatter of some astrological quack of the fifteenth century, but is taken from E. Heron-Allen's *Manual of Cheirosophy*, London, 1886. The talented author of this surprising volume has recently visited the United States and lectured to admiring audiences in the principal cities. A considerable number of books of similar contents and value have recently been published in imitation of d'Arpentigny and Desbarrolles. As an example of the difficulties which beset one in attempting to practically apply the doctrine, I would say that in my own hands the "mount of Saturn" is absent, while that of Mercury is prominent. The work just cited states (page 208) that "if the mount of Saturn is quite absent the indication is of an insignificant 'vegetable' existence, unmoved by any great depth of feeling, and one which is continually oppressed by a sense of misfortune." I am, however, reassured by finding (page 214) that the "pre-eminence of the mount of Mercury indicates science, intelligence, spirit, eloquence, a capacity for commerce, speculation, industry, and invention, agility, promptitude in thought and action, and a penchant for travel and occult science."

As an example of the fatal inability to properly observe even the features which they consider essential, it may be mentioned that after examining a considerable number of the works of these authors I have in no case found a correct representation of the lines which mark the finger-joints, which are almost invariably as shown in Fig. 1, the folds next the palm being single for the index and little fingers, double for the others, the middle folds being double and the distal folds single. This may be verified at once by an inspection of one's own hand; but our cheiromants are too much occupied with the discussion of planetary influences to descend to exact observation.

It is well known that the notion of connecting a mystic symbolism with the lines and eminences of the palm is very old. The passage at Exodus, xiii, 16, "And it shall be for a token upon thy hand," is given in the Vulgate as "*et erit signum in manu tua,*"

and that at Job, xxxvii, 7, "He sealeth up the hand of every man," as "*Qui in manu omnium hominum signat.*" These are relied upon by palmisters not only as an evidence of the great antiquity of their science but also of its divine authenticity. Dr. William Lee, of this city, has recently called my attention to a translation of an old Sanscrit work, the *Ananga Ranza*, or *Ars Amoris Indica*, which contains the following among other passages relating to palmistry:

"If an unbroken line run in the palm from the 'mount' or base of the little finger to that of the forefinger, it is a sign the bearer will live a hundred years. But the man in whose palm an unbroken line runs from the ball or cushion of the little finger to that of the middle finger should be considered as likely to live for a period of sixty years."*

There is here strong evidence that the gypsies brought their palmistry with them from India.

The absurdities of these authors certainly need not prevent an attempt at a rational physiognomy of the hand. While rejecting such puerilities as a minute study of the lines of the palm or a consideration of the mounts, every physician knows that certain general information, both with regard to the natural disposition of the individual and his condition at the time, can be obtained from the hand. The firm and moderately supple hand, with elastic skin and general tonic quality of the muscles, is very different both physiologically and pathologically from the dry tense hand, or the nerveless moist one. A considerable part of this difference depends upon the controlling influence which the nervous system has upon the muscles. As Sir Charles Bell remarks, "a thousand intricate relations are established with the hand throughout the whole frame," and if these have a constant tendency either in one direction or another the result will be in a general way made obvious. Physiologists are coming more and more to regard the nervous and muscular systems as a practically inseparable whole. It appears from the researches of Warner† and Mills‡ that during life forces are vibrating

* Page 82. The book was translated by "B. F. R." [Richard F. Burton?] and privately printed.

† Physical Expression. London and New York, 1886.

‡ Mills (T. W.). A Physiological Basis for an Improved Cardiac Pathology. N. Y. Med. Record, Oct. 22, 1887.

throughout the nervous system to the muscles, even while the latter appear perfectly quiescent, and that it is by these forces that the nourishment of the body is carried on.

Now, the musculo-nervous system of the hand is not a single simple apparatus, but several groups of organs combined together for harmonious action—organs which have become gradually differentiated from a more generalized form, each with its own history and rate of progress. We may therefore expect to find differences in hands according as these different sets of musculo-nervous organs have been developed more or less symmetrically and harmoniously, and if there is a predominance in the action of any one group we may expect to find a corresponding correlation in the rest of the body, including affections of the mind. Our first step towards a physiognomy of the hand, as in that of the face, must be to analyze the expression of the emotions.

Figure 2 shows, for example, a well-balanced hand, the flexors and extensors being about equal in their force, and giving a general



FIG. 2. The energetic hand. (Warner.)

tonic character which we recognize at once as indicative of healthy energetic action. Figure 3 shows the opposite of this, there being a relaxation of muscles, a lack of tonicity, and an indication of feebleness. We feel at once that these characteristics cannot be confined to the hands alone, but must extend to the whole system of the possessor. That they are not merely an accident of the attitude is seen by comparing these with Figure 4, which shows the healthy hand at rest.

While the flexor and extensor groups appear to be balanced in ordinary conditions of the hand, they are somewhat unequal in what may be called the *stability* of their functions. Any marked

disturbance of the nervous system is likely to act upon them unequally. This is well seen

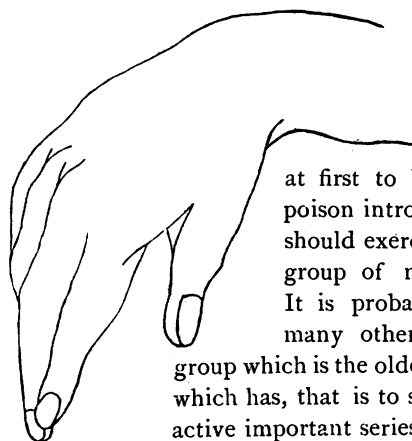


FIG. 3. The feeble hand. (Warner.)

in the case of chronic lead poisoning, with its accompanying "wrist-drop," caused by the paralysis of the extensors. There would seem

at first to be no especial reason why a poison introduced slowly into the system should exercise a selective action on one group of muscles rather than another.

It is probable that in this case, as in many others throughout the body, the group which is the oldest, phylogenetically speaking, which has, that is to say, the longest history as an active important series of organs, is the one which

resists longest; and that, on the contrary, the group which has been most recently developed is the first to yield to disturbing influences. When we come to follow down

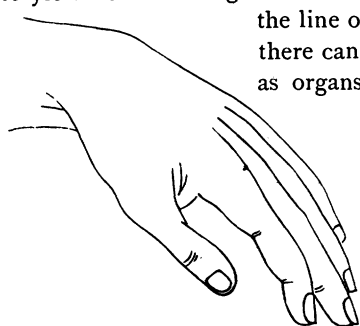


FIG. 4. The hand at rest. (Warner.)

the line of man's ascent in the animal scale there can be no doubt that the flexor group, as organs of prehension, have had a much more significant part to play than the extensors. For long ages they have had vibrating through them some of the strongest influences of which the body is capable; consequently they have acquired an ability to resist disturbance similar in some respects to that possessed by an animal

that has become adapted, by long struggle and hereditary transmission, to an environment fatal to those not having such training.*

* In a paper read at the Buffalo (1886) meeting of the American Association for the Advancement of Science I ventured to call attention to this law of comparative stability, instancing, among other cases, the extensors of the leg, the thyroarytenoid muscles of the larynx, the nervous system in general, especially the speech and writing centers of the brain, and the premaxillary bone. Allen had previously called attention to similar facts with reference to the other bones of the skull, and Mills (op. cit.) mentions this law in connection with the heart.

In the hand, therefore, the most recent and highly specialized muscles are the first to be affected by any pathological disturbance. The lumbricales and interossei easily succumb, next the extensors. This is especially seen in cases of progressive muscular atrophy, the human characteristics gradually disappearing and the hand assuming more and more the attitude and shape of an ape's paw.

The predominance of the flexors is at once seen in case of any powerful excitation of the nerve-centers causing spasmodic action, the hand being then tightly clenched and the thumb drawn inward toward the palm because of the great number of strong flexors attached to it. The real expression of mental agony is not the conventional wringing of the hands by simply sliding one over the other, as in the act of washing them, but the clutching of one hand and passing it through the other with a convulsive twitch as the ends of the fingers are reached. This expressive fact in the physiognomy of the hand is often made use of by actors and artists. Madame Bernhardt's hands are as expressive as her features. The strong action of the thumb causes it to be thrown inward during the death struggle of those who have died a violent death.*

In many cases of pathological conditions of the nervous system an irregular action of the flexors is seen. Fig. 5 shows a form

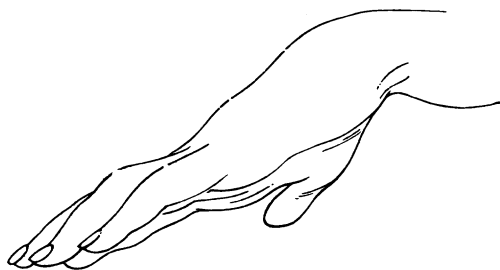


FIG. 5. The nervous hand. (Warner.)

which is frequently found and may exist temporarily as an expression of passing emotion.

* This fact, when translated and exaggerated, reads as follows in the terms of the new science: "At the approach of death the thumbs of the dying, struck, as it were, with the vague terror of approaching dissolution, fold themselves beneath the fingers—sure sign of the nearness of the final struggle." (D'Arpentigny, *op. cit.*)

Again, the hand may show in temporary attitudes forms of expression which are derived from gestures once useful for protection or preservation and now surviving as relating to a higher form of mental emotion. The expression of fright is associated with a sudden extension and raising of the hand, so as to repel the object of horror, protect the person, and place the hand in a position for the flexors to be put effectively in play. The attitude is shown in Fig. 6 and is used not only for actual protection, but also to ex-

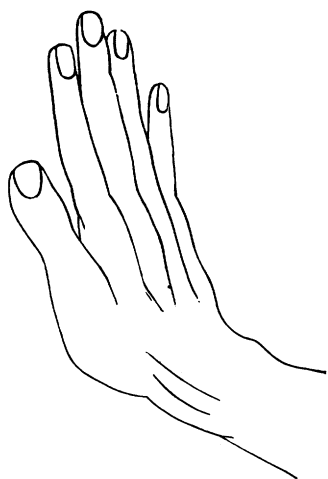


FIG. 6. The hand in fright. (Warner.)

press fright where no possible danger can exist to the individual. I was told by a lady recently that from the window of a car going at full speed she saw a woman throw her hands into this position and knew from that alone that some accident had occurred. The engine had struck a wagon crossing the track, killing the driver and horse. It is by the constant repetition of muscular states that types of hands come to be formed, the muscles by their pull and the nerves by their constant trophic influence shaping the very bones. There is, however, another class of differences which represents

what may be called reversionary characters, the hand showing features common to forms which lie lower in the biological scale. As instances of this may be mentioned a predominance of hair, fingers unusually short and thick or with strangely curved nails, an unusually small and undeveloped thumb. There is considerable evidence tending to show that people who possess reversionary characters are more common among those classes of society properly designated low. Like similar characteristics of face—retreating forehead, heavy frontal sinuses, strong zygomatic arches, prognathous and heavy jaws—they are unusually common among criminals and the insane. This simply means that a correlation of this kind is frequent, not that the two have any real causal connection. They no doubt often exist in those of perfectly sound mind and without the slightest tendency to crime.

The comparative length of the index finger has received some

attention as a reversionary character. It is usually shorter than the ring finger, as in the anthropoid apes, sometimes equals it, and rarely exceeds it. Ecker,* for reasons which are not quite clear, considers that unusual length is a progressive character. He finds it more frequent in women and holds that it is usually correlated with a high type of mind. Grüning† recently made some 200 very exact observations to determine whether the peculiarity had any ethnological value, and in the main confirmed previous results. I have myself made a considerable number of examinations of hands for the same purpose and find that the matter is more difficult of solution than would at first appear. If the fingers are not held firmly in a definitely chosen position, I think the results obtained very questionable, for a slight abduction or adduction of the hand causes the relative length to vary considerably. In 85 individuals examined I found the index to equal or exceed the annularis in 9 cases. There was no perceptible difference in the two sexes. Braune and Fischer‡ have recently shown that conclusions drawn from the living hand are not correct, as the measurements cannot be accurately made from the axis of motion of the joints. They examined 40 skeletal hands and found that in no case did the index equal or exceed the medius in length. When the metacarpal bone of each finger is counted as a part of the digit, the index is invariably longer.

An error is likely to arise by assuming too hastily that a short index is an invariable character in apes. In all cases of this kind a generalization cannot properly be made until many observations have been recorded. The number of apes carefully observed must be comparatively few, and it seems not unlikely that, if a sufficient number were examined, the range of variation would be found to be quite as great as in the human species.

A number of interesting traditions may be noted concerning the different fingers of the hand. The thumb being the strongest of the digits naturally comes in for a large share of these. Many illustrations might be given of its use as a symbol either of religious

* Ecker (A.). Ueber einen schwankenden Charakter in der Hand des Menschen, Arch. f. Anthrop. Braunsch., 1875-'6, VIII, 67.

† Grüning (J.). Ueber die Länge der Finger und Zehen bei einigen Völkern. Ibid, 1885-'6, XVI, 511.

‡ Archiv. f. Anat. u. Entwicklungsgesch., Hefen I & II, 1887.

belief (first person of Trinity) or of virile force. Turning the thumb inward toward the palm was practised in Northumberland to avert the terrors of witchcraft, and it was customary to so fold inward the thumbs of the dead, as the fingers in that position formed a similitude of the Hebrew character commonly used to denote the name of God.*

A similar application of the thumb to avert the evil eye is mentioned as occurring in Andalusia.† In this case it was used to make the "mano in fica," being placed between the index and middle fingers. Children wear amulets of this kind, which are known as "fijas." Mallery ‡ notes the use of this sign in the Neapolitan gesture-language to indicate the pudendum muliebre. It is used among school boys in Western New York, New England, Pennsylvania and Michigan with an obscene meaning attached to it. It is not at all impossible that this "mano in fica" may be a survival of some ancient phallic symbol-like that of the horseshoe. It is well known that the phallic worship was not necessarily obscene, but had as its essential quality a reverence for the life-giving powers of nature as opposed to all noxious death-dealing powers. A closed fist with two fingers extended is still a charm found over church doors in England, and is also considered phallic.§ In Egypt, Greece and Italy a representation of the phallus was generally used against the evil eye.||

Another digit which has an interesting folk-lore history is the fourth—that is to say, the annularis or ring finger. It was used even in Greek and Roman times to carry a ring, and the reason for this becomes obvious enough when we examine the anatomy of the extensor tendons, the tendon for the fourth digit being attached by cross-bands to those of the third and fifth and the motion of the finger thus considerably confined. A practical illustration of this can easily be made by attempting to extend the fourth digit, while the third and fifth are held forcibly flexed. From this more

* Brands' Popular Antiquities.

† Notes and Queries, 6th ser., XII, 32.

‡ Sign language among North American Indians. Report of Bureau of Ethnology, 1879-80.

§ Notes and Queries, 6th ser., XI, 413.

|| Westropp (Hodder M.). Primitive Symbolism as illustrated in Phallic Worship, p. 62.

limited range of independent motion it follows that a ring worn upon this finger is less likely to interfere with the free use of the hand than upon any other.

There is, as usual, a mystical signification ascribed to this. One idea is that as the thumb, index, and middle fingers indicate severally the three persons of the Trinity, the next finger in honor is given to the wife, and the wedding ring is therefore assigned to it. Many authors state that it was anciently supposed that a *nerve* passed directly from this finger to the heart.*

I have been somewhat puzzled to account for this, as it is well known that the importance of the nerves as conveyers of force, although vaguely surmised by old anatomists, was not fully recognized until comparatively modern times. On further investigation it seems probable that it was a *vein* to which was assigned the office of connecting the finger with the heart.

In the marriage service the Book of Common Prayer gives explicit directions that "the Man shall put the ring upon the fourth finger of the Woman's left hand," and the spousal manuals of York and Salisbury give the reason, "Quia in illo digito est quædam vena procedens usque ad cor."†

In the Treatise of Spousals, by Henry Swineburne (1590:-1600?), printed 1686, occurs the following passage: ‡

"The Finger on which this Ring is to be worn is the fourth Finger of the left hand, next unto the little Finger; because by the received Opinion of the Learned and Experienced in Ripping up and Anatomizing Men's Bodies there is a Vein of Blood which passeth from that fourth Finger unto the Heart called *Vena amoris*, Love's Vein. And so the wearing of the Ring on that Finger sig-

* Hyrtl. *Topographisches Anat.*, 7th edition, Wien, 1882, Vol. II, 513.

Aulus Gellius, *Noctes Atticæ*, lib. x, cap. 10, has the following passage: "Veteres Græcos annulam habuisse in digito accepimus sinistræ manûs qui minimo est proximus. Romanes quoque homines aiunt, sic plerumque annulis usitatos Causam esse hujus rei Appianus in libris Aegyptiacis hanc dicit: quod in vectis opertisque humanis corporibus, ut mos in Aegypto fuit quas Græci *ανατομὰς* appellant, repertum est nervum quandam tenuissimum ab eo uno digito de quo diximus ad cor hominis pergere ac parvenire. Propterea non in scitum visum esse, eum potissimum digitum tali honore decorandum, qui continens et quasi annexus esse cum principatu cordis videretur.

† Maskel. *Ancient Liturgy of the Church of England*, 2d ed., clv, note.

‡ Cited in *Notes and Queries*, 7th ser., iv, p. 285.

nifieth that the love should not be vain nor fained, but that as they did give their Hands each to other, so likewise they should give their Hearts also, whereunto that Vein is extended."

I have seen it stated that there is no anatomical basis for this idea, but those who have held this have surely overlooked the vena salvatella of the old anatomists. This vein arises directly at the root of the ring finger in the fourth metacarpal space, runs over the back of the hand, and can be traced upward through the basilic or royal vein, the axillary, the subclavian, the innominate, the descending cava, to the heart. Hyrtl* derives the name salvatella from a corruption of the Arabic name given by Avicenna as *Al-usailim*=*vena salutis*. If this be correct we may see here the same idea, the vein of health being very naturally the one directly connected with the heart. As this vein is a very prominent one, usually standing out clearly when the hand is pendent, it is not surprising that it should have attracted the attention of those who busied themselves with the symbolism of the hand.

It seems incredible that this should not have been clearly shown by some one before this, and I am quite prepared to find that I have been anticipated in my explanations, as happens very frequently to those who tread such well-worn paths as I have travelled in this paper.

DISCUSSION.

The above paper was read before the Anthropological Society of Washington May 4, 1886, and was discussed by Messrs. PETERS, MASON, MALLERY, and FLETCHER.

Prof. MASON spoke of Dr. Hassenpflug, who has professed to cure various diseases with his hands by bringing them in contact with his patients. He also asked whether Dr. Baker had seen any comparisons of the length of forefingers and ring fingers; in his own case he found that his ring finger was slightly longer than his forefinger; in most cases they are about the same length—a proof, it is said, of our simian ancestry. Some persons find that on one hand the forefinger is slightly longer than the ring finger, while on the other hand they are of the same length. He then referred to dermal topography and its use by the police and others as a means of identifying persons.

* *Lehrbuch der Anat.*, 17 ed., p. 1073.

Col. MALLERY spoke of the mystic influence of the thumb mentioned by Dr. Baker. He had recently attended a lecture on the system of Delsarte in which the same superstition appeared. Delsarte, it was said, determined to find a sign of death, had visited all the dissecting rooms and hospitals, but he could find nothing to distinguish death from catalepsy. At length he declared that in cases of death the thumb was always flexed and rested on the palm, but he said nothing about the fingers being closed on it. This fundamental discovery was wholly fallacious, such position of the thumb, at the most, attending only sudden and violent deaths, and also catalepsy.

Dr. FLETCHER spoke of us as owing nearly all our present system of measurement to the parts of the hand. He then gave what he considered a fanciful derivation of the word *poltroon*, *pollice truncato*, ascribed by some to the old custom of cutting off the right thumb of a vanquished foe. He next called attention to the fact that one other organ, the tip of the tongue, was as sensitive as the points of the fingers. This has been shown by slightly opening a pair of dividers and placing the points on the tip of the tongue, which could easily detect the presence of two points instead of one. In his opinion the closed thumb as a sign of death is without value. But it is acknowledged that those dying violent deaths have the fingers and thumb tightly clenched.

THE Journal of the Anthropological Institute of Great Britain and Ireland for August, 1887, prints a description of the cerebral hemispheres of an adult Australian male, by H. D. Rolleston, B. A., Scholar of St. John's College, Cambridge.

It is to be regretted that few brains of Australian aborigines have, so far, been subjected to the careful study which modern science demands, since the organ of thought in such a low race as the Australians may be supposed to present many marked and instructive contrasts with the same organ in the higher races.

Mr. Rolleston has subjected the brain in his possession (taken from a patient in the hospital at Adelaide) to a careful examination and has recorded in concise language the results of his study. The author estimates the weight of the brain at the time of death at 43

ounces. He tells us that the average weight of six Australian brains was found to be 41 ounces, and he continues:

“The weight of the brain as a racial character is a subject which has attracted a good deal of attention, and, as a result of colossal tables, it may be taken that the average European brain-weight in males is 49 ounces. The average weight of the negro brain is about 44.3 ounces, which it will be seen is in excess of the primitive Australian.”

He notices the general greater simplicity of the convolutions of this Australian as compared with the average European brain, and, especially with regard to the frontal region, he says:

“The convolutions of the frontal lobe, which is connected with intellectual processes, are seen to have a marked antero-posterior arrangement, to be four instead of three in number, and to be separate—not to join each other at every turn and twist, as is so notably the case in the described brains of many eminent men, and generally of the more civilized nations. The simplicity of the frontal region is a point of importance, and may be considered as characteristic of a primitive brain. The frontal lobe being associated with higher faculties, it has been thought that the relation of amount of brain substance in front and behind the fissure of Rolando is of almost equal importance with the features mentioned above; but in this brain the relation of amount of brain-substance in front and behind the fissure of Rolando was much the same as in an average European brain.”

Mr. Rolleston's paragraph with regard to the speech center is of especial interest:

“The island of Reil is exposed on left side; this exposure is a condition found in primitive brains: thus Marshall (Phil. Trans., 1864) figures it in the brain of a Bushwoman, and quotes other examples. The exposure of the island of Reil implies that the surrounding gyri are ill-developed. Broca's convolution is thus shown to be defective, a point of interest in an Australian savage whose language is primitive, as shown by its unclassified character.”